

**MODIS Technical Team Meeting**  
**Thursday, January 3, 2002**  
**3:00 P.M**  
**Building 33, Room E125**

Vince Salomonson chaired the meeting. Present were Wayne Esaias, Jack Xiong, Bill Barnes, Barbara Conboy, Steve Kempner, Eric Vermote, Michael King, Skip Reber, and Ed Masuoka, with Rebecca Lindsey taking the minutes.

**1.0 Upcoming Events**

➤ Terra Data products Review  
NASA Headquarters

January 7-8, 2002

**2.0 Meeting Minutes**

**2.1 General Discussion**

Salomonson showed viewgraphs of his introduction to the upcoming HQ data products briefing. He will provide an instrument status update, Kempner will do data production status for L1B, and Masuoka will do a status of MODAPS. Then the discipline leads will talk about status of the algorithms, especially which are considered validated. He reminded the team that we must have shown a chart of planned changes last year, and they want to hear about progress relative to that schedule.

Salomonson indicated his basic message would be that we have accomplished a lot, including the consistent/complete year, but we still have serious challenges, like how to process and reprocess data as well as prepare for Aqua.

Xiong has prepared an instrument status overview that says that L1B has been validated since the release of L1B Version 3.0. There are some things with the 1.38 $\mu$ m channel that still could be tweaked, but even that channel is vastly improved. King suggested that the cloudmask group had come up with some corrections for that band, and Barnes said MCST was aware of those, and was looking at them to see if they were appropriate to be included in the L1B.

Salomonson went on to say that he planned to present a summary of the MODIS Data Processing Review Team, explaining the impetus for the review, who was on the panel, and their objectives. He said he expects questions about how we are responding to the panel's recommendations, and he will say that we are considering them, and deciding what is feasible within the current resources and system architecture, and how they might be implemented. Mike Moore is looking at the costs of additional hardware support, and we are also looking for an advisor to help with end-to-end data system engineering issues. If

pressed, he might say we will only do L1 for Aqua with capacity to do special products to show off.

## 2.2 Data Processing

Salomonson said that he was beginning to think about the issue of the core products as recommended (#1) by the MODIS Data Processing Review Team. He suspects that this will require a lot more dialogue with many parties before convergence on a path to follow is achieved. The dialogue needs to occur as quickly as possible.

Thinking about the next reprocessing, Masuoka brought up some scheduling and decision items that should be addressed. Masuoka said that the traditional model of reprocessing means that code would be frozen for a time period. He indicated that there are several levels that we could choose to operate on, from most restrictive to least:

- We can completely freeze software, allowing no changes
- We could allow changes that speed up production (i.e. increase efficiency), but do not change the product's scientific content or metadata
- We could allow changes to metadata, but not scientific content
- We could allow changes that *add to* scientific content, but do not *alter* previous science (e.g., adding an SDS)
- We could allow any science changes that the Team Leader approves.

He indicated that the team needed to decide which strategy it would employ for the next reprocessing. Esaias said that for Oceans, they do not plan to begin any reprocessing large-scale effort until they could reprocess without changing code at all. Of course, this depends on how quickly the data are reprocessed. If it takes a few months, fine. If it takes 8 or 9, that might be a different story.

Salomonson said that he liked the idea of staggering the disciplines for reprocessing, so that each discipline could reprocess when they wanted to do so. Assuming forward processing continues, MODAPS could use the 2x for one discipline at a time. Of course, Oceans and Atmospheres would take far less time to reprocess for a given period than would Land.

Masuoka indicated that the key question for that approach is how fast the DAAC can push data to MODAPS out of the archive while also ingesting all the reprocessed data coming back to it from MODAPS. They are in the process of testing that.

Salomonson indicated that they are currently thinking that we would process SAFARI and other validation campaigns until oceans is ready to go, and be ready for Aqua to come online. However, it doesn't appear that that will be enough to keep MODAPS busy until Oceans is ready. Salomonson asked Esaias what was happening as far as code revisions.

Esaias said that the current plan has Miami testing new versions of code by running (at Miami) several days within a month for an entire year. Once the radiances become stable, then the PIs will check the flags and quality of the L2 products. There will be again this time series of a day or so a month done on up the food chain, so that the PIs can review.

All of this is being done using Miami products. Then when the PI are satisfied, Miami will make a delivery to MODAPS, and STIG puts it through testing to make sure it runs. This is necessary because in our efforts to streamline, we will be writing the code to deleting many intermediate files.

After integration, we will require the code to be run in MODAPS though weekly L3—at least one week, and hopefully several days from different months—to produce a weekly file product that can be compared to the results seen at Miami. He thinks that once the code has passed STIG and is running in MODAPS, it should take a couple of weeks to verify the results against Miami's. Then we would be ready to proceed with the full reprocessing effort.

He thinks they will have their delivery to MODAPS in the first week of March. Barring any significant differences between MODAPS' and Miami's results, he would expect we would be ready to reprocess by end of March. If we assume that the DAAC can push data at 6x, we will finish reprocessing the year in about 2 months. Again, they are planning tests to see if that rate can be achieved. Kempler said that one factor in our favor is that we only need 1km, which halves the volume. Esaias said that they are really taking the ax to what has to go back to the DAAC, so that we are only putting in to the DAAC what has to be there.

Masuoka presented a schedule that was slightly less optimistic, and was based on the assumption that the first round of reviews showed significant differences between Miami and MODAPS production with the new code, and also had a later initial delivery date. Also factored into that schedule are hardware upgrades, including power installation at the end of January, and some additional days down in February to supply redundant power. Other upgrades include installing 30TB of disk on mtvs2, augmenting the test system with 32 Linux minions in early February, and adding processors to both mtvs1 and 2 in early march.

Salomonson said that if he were looking for a sound-bite, he supposed he could say that MODIS will be well on its way to having most products validated by next fall. Esaias thought he could say mid-summer.

### **3.0 Action Items**

3.1 Reber to send Justice the mailing list that has members of the DAWG.

3.2 Justice to contact Bob Whacker

Status: Open.

3.3 Ramsay to forward Justice an email from him.

Status: Open

3.4 Discipline leads to meet to resolve the issue of beta-release code and science-quality code, and what we need to say about it.

Status: Open.

3.5 Technical team to discuss further the issue of predicted ephemeris data and how to

improve it.

Status: Open.